

In the Claims:

Claims 1 – 75 cancelled.

~~76.~~ (Original) A method for stimulating an immune response in an animal, the immune response being directed toward a ubiquitin fusion protein, the method comprising:

- a) providing a ubiquitin fusion protein comprising ubiquitin fused to a single epitope-containing segment, the epitope-containing segment comprising two or more identical epitopes; and
- b) administering the fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response.

~~77.~~ (Original) A method for stimulating an immune response in an animal, the immune response being directed toward a ubiquitin fusion protein, the method comprising:

- (a) providing a ubiquitin fusion protein comprising ubiquitin fused to two or more non-contiguous epitope-containing segments, each epitope-containing segment comprising one or more identical or non-identical epitopes; and
- (b) administering the fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response.

~~78.~~ (Original) A method for stimulating an immune response in an animal, the immune response being directed toward a ubiquitin fusion protein, the method comprising:

- (a) providing a ubiquitin fusion protein comprising ubiquitin fused to a single epitope-containing segment comprising two or more identical or non-identical epitopes, the epitope-containing segments being fused to ubiquitin at fusion sites selected from the group consisting of the N-terminus and an internal fusion site;
- (b) administering the fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response.

~~79.~~ (Original) A method for stimulating an immune response in an animal, the immune response being directed toward a ubiquitin fusion protein, the method comprising:

- (a) providing a ubiquitin fusion protein comprising ubiquitin fused to a single epitope-containing segment comprising one or more identical or non-identical epitopes, the epitope-containing segment being fused to ubiquitin at N-terminus of ubiquitin;
- (b) administering the fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response.

Claims 80 – 83 cancelled.

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84.

(Original) A method for stimulating an immune response in an animal, the immune response being directed toward a ubiquitin fusion protein, the method comprising:

- (a) providing a ubiquitin fusion protein comprising ubiquitin having the ^{6nRH}peptide QHWSYGLRPGQHWSYGLRPGQHWSYGLRPGC (SEQ ID NO: 34) fused via its N terminus to the C-terminal residue of ubiquitin; and
- (b) administering the conjugate of step (a) to an animal under conditions appropriate for the stimulation of an immune response.

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85.

(Amended) The method of Claim ⁵84 wherein the physiological consequences of administration to the animal ~~are substantially similar to the consequences of surgical castration~~ is immunocastration.

Claims 86 – 100 cancelled.

7/
101.

(New) A method for reducing levels of a predetermined protein in an animal relative to base-line levels, comprising:

- a) providing a ubiquitin fusion protein comprising ubiquitin fused to a single epitope-containing segment, the epitope-containing segment comprising two or more identical epitopes; and
- b) administering the fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response.

8 ~~102.~~ (New) A method for reducing levels of a predetermined protein in an animal relative to base-line levels, comprising:

- (a) providing a ubiquitin fusion protein comprising ubiquitin fused to two or more non-contiguous epitope-containing segments, each epitope-containing segment comprising one or more identical or non-identical epitopes; and
- (b) administering the fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response.

9 ~~103.~~ (New) A method for reducing levels of a predetermined protein in an animal relative to base-line levels, comprising:

- (a) providing a ubiquitin fusion protein comprising ubiquitin fused to a single epitope-containing segment comprising two or more identical or non-identical epitopes, the epitope-containing segments being fused to ubiquitin at fusion sites selected from the group consisting of the N-terminus and an internal fusion site;
- (b) administering the fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response.

C3
10 ~~104.~~ (New) A method for reducing levels of a predetermined protein in an animal relative to base-line levels, comprising:

- (a) providing a ubiquitin fusion protein comprising ubiquitin fused to a single epitope-containing segment comprising one or more identical or non-identical epitopes, the epitope-containing segment being fused to ubiquitin at N-terminus of ubiquitin;
- (b) administering the fusion protein of step a) to an animal under conditions appropriate for the stimulation of an immune response.

D ~~105.~~ (New) The method of any of Claims ^{one} ~~101~~, ~~102~~, ~~103~~ or ~~104~~, wherein the predetermined protein is a peptide hormone.

12/ 106. (New) The method of Claim ~~105~~¹¹, wherein the predetermined peptide hormone is a male-specific or female-specific peptide hormone.

13/ 107. (New) The method of Claim ~~106~~¹² wherein the predetermined peptide hormone is gonadotropin releasing hormone.

14/ 108. (New) The method of Claim ~~104~~¹⁰, wherein the predetermined protein is tumor necrosis factor.

C3 15/ 109. (New) The method of Claim ~~104~~¹⁰, wherein the predetermined protein is a growth hormone protein.

116/ 110. (New) The method of Claim ~~104~~¹⁰, wherein the fusion protein is conjugated to a non-ubiquitin carrier protein.